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ABSTRACT

The operation of a state's school finance system can be evaluated by viewing it against a set of predetermined goals. This process involves three steps: recognizing the decisions that were made in establishing the system's goals, showing how those goals were translated into policy, and assessing the success of the policy in achieving the goals set. Designed to initiate the nonspecialist in the basic concep s required for such an evaluation, this handbook of four chapters first introduces the topic of school finance and its current prominence. The second, and central, chapter discusses the role of state aid, the kinds of decisions underlying the goals of finance systems, the development of finance plans, the provisions of the major general aid formulas, and the concepts behind assessing a state aid plan's impact. Particular attention is paid to equalization methods. Chapter three describes generally how state and local revenue systems work and don't work. The final chapter covers the role of the federal government and federal aid in school finance. A glossary of 29 concepts in school finance and a bibliography of 55 items conclude the document. (Author/PGD)

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Plain Talk About School Finance

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PLAIN TALK

ABOUT SCHOOL FINANCE

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This publication is the result of a National Institute of Education/ Department of Health, Education and Welfare grant to the American Federation of Teachers who worked in cooperation with the Educational Policy Research Institute (EPRI) of the Education Testing Service.

As part of its on-going work in the area of school finance, NIE recognizes that the reform of state systems of school finance can affect every school teacher and parent in the nation. Without their understanding, policy decisions on the equitable generation and distribution of revenues suffer from inadequate support. At NIE, we believe that the resolution of these important issues will benefit from the informed participation of teachers, administrators, and the general public.

This handbook, entitled "Plain Talk About School Finance," was specifically written to clarify the technical issues involved in school finance policy. We hope this handbook will encourage discussion among researchers, practitioners and policymakers and help inform the school finance legislation that is currently being considered in our State capitols.

Patricia Albjerg Graham

PREFACE

School finance is a topic that is important to every teacher in this country. How education revenue is raised, how much is provided, and how it is spent are essential elements in providing a quality education for every child. The financing of public schools has become a significant public policy issue, and the debate over school finance policy is a legitimate issue for teacher organization involvement.

The American Federation of Teachers has been in the forefront at the national, state and local levels in the battle for more money for our schools. To successfully fight this battle, we need not only political strength, but also need to be equipped with knowledge about school finance. Teachers and teacher leaders need to be well-informed about such topics as state aid formulas, equity and equalization, tax rates, assessment ratios, school finance reform options, and a myriad of other related subjects.

This book, Plain Talk About School Finance, represents a major initiative by the American Federation of Teachers to provide members with the basic knowledge to deal with school finance issues. AFT local leaders and members will be able to use this book to develop the knowledge and skills to provide informed leadership in school finance discussions and campaigns. I hope you will use this book and continue to find it a valuable resource in our quest for equal educational opportunity for all children.

Sincerely,

Albert Shanker
President

FOREWORD

Recent events--in particular, court challenges, declining enrollments, the call for public accountability and a tight economy--have made school finance a major educational issue. Each year billions of dollars are spent by state and local governments on education. Yet the decisions concerning the raising of revenues and the distribution of tax dollars for education have been restricted to those few individuals who were familiar with the jargon and the complex formulas generally employed in school finance discussions. It is essential that the public become aware of the choices to be made in designing state school finance systems that provide children with an equal opportunity for a quality education.

The Education Policy Research Institute (EPRI) of Educational Testing Service has been a major participant in the school finance reform movement. Too often EPRI has noted the lack of participation of citizen and other interest groups in the school finance debate due to a lack of understanding of basic school finance concepts. Plain Talk About School Finance represents an effort to provide interested parties with the tools to participate in the policy development process.

Plain Talk demystifies educational finance. It clarifies the value choices inherent in any school finance formula, defines the basic types of finance plans, describes the factors that influence raising and distributing money, and briefly examines the federal role in financing education. It is our hope that Plain Talk will be a useful document to all those concerned with providing children with an excellent education.

William W. Turnbull
President
Educational Testing Service

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CHAPTER I

INTRODUCTION

For generations the topic of raising and distributing revenues for public schools was the domain of a small group of specialists. Typically the only people who dealt with the subject were finance officials in the state education department, a few legislators who had made the area their speciality, a professor or two from a state teachers college, and representatives of the state School Boards Association or an association of school administrators. The topic of school financing was clouded in jargon familiar only to this exclusive group. Not surprisingly, the subject received little attention from the public.

In the late 1960s this situation began to change. For one thing, a new group of scholars trained in specialties like economics, public finance, political science, and public and business administration, began to examine the way that schools were financed. Going beyond the intricacies of the complicated aid formulas, the new students of school finance turned their attention to the results of these finance systems. They found that the existing school finance systems did not go very far toward equalizing tax burdens and educational spending among different school districts. Support per pupil ranged widely; some districts were found to spend two, three, and four times as much per pupil as others within a single state. Local tax rates also varied markedly. But what was particularly disturbing was the demonstration that communities with high tax rates frequently achieved only average or even lower than average school spending levels. By contrast, the higher spending districts often were able to support their budgets with only moderate or low local tax effort.

Other defects in the system also became clear. For example, there was a concentration of disadvantaged and handicapped pupils in the largest cities where the general financial situation was undergoing marked deterioration and where the cost of living was the highest in the state. Despite this situation, state aid systems were still geared to the 1920s when cities were rich and needed little aid, while their environs were poor.

While these and similar findings were emerging, a phenomenon widely known as the "taxpayer's revolt" was taking place across the country. The rise in total educational spending had outrun most other sectors of the economy, and a punishing cost-revenue squeeze was forcing tax rates up at an alarming rate. State after state set record levels for defeating school budgets and bond issues.

A final factor undermining the stability of the existing school finance systems was a series of constitutional challenges. In a 1970 landmark decision the California Supreme Court ruled that the system of financing schools was unconstitutional under the states' equal protection clause because it made the quality of education a function of the taxable property wealth of local school districts. This resulted in substantial disparities among districts in dollars spent per pupil, discriminating against school children and taxpayers in property poor districts. The Serrano decision triggered a chain reaction. Between 1971 and 1973, in more than half a dozen states, activist attorneys successfully utilized the fourteenth amendment of the federal constitution and state constitutional provisions to strike down state systems of school finance. Potentially, these decisions affected virtually every state in the union, except Hawaii, which has a statewide revenue raising system. For a variety of reasons the defendants did not appeal.

The state in the Texas case San Antonio v. Rodriguez (1973) was an exception. The United States Supreme Court in March, 1973, handed down a sharply divided 5-to-4 decision reversing the District Court's decision. More importantly, Rodriguez ended the series of cases that relied upon the Fourteenth Amendment to invalidate school finance laws.

As a result primarily of the new research, the taxpayers' revolt and the legal challenges, changes are taking place in the way that revenues are raised and distributed for public education. Despite the March 1973 Supreme Court decision (Rodriguez v. San Antonio), several state courts have overturned school finance laws on the basis of state constitutions. Decisions in California, New Jersey, and Connecticut will require substantial reforms in those states. Another recent development is that new groups, and far more public officials, have entered the fray for change in school finance. Non-educational interest groups, legislative leaders, governors, and teachers in different states have made school finance reform a priority public issue. Partly in response to this new public, scholars and policy analysts have begun to demystify the process of studying school finance. By applying new techniques and simplifying language, researchers in governmental agencies, universities, research organizations, and interest groups have turned the focus of attention away from the intricacies of formulas towards an analysis of the values and educational choices underlying school finance decisions.

In keeping with these contemporary trends, this handbook emphasizes not the computation of assorted school finance formulas but the decisions that must be made in reforming a school finance system. Who will bear the tax burden? What types of students will be most benefited? How can greater equity be injected into funding educational expenditures? These are real issues to be confronted in the study of school finance. Accordingly, this handbook provides a basic core of information for all people having a role in school finance reform which should enable them to:

1) speak the school finance language,

2) recognize the disparities in aid allocation which exist under current school aid plans,

3) evaluate the relative merits of different school finance plans and,

4) be sensitive to the value judgments and political choices inherent in the selection of any new or revised school aid formula.

This handbook is divided into four chapters. In this chapter we have introduced the topic of school finance. Chapter II is concerned with the process of evaluating a state school finance system: the decisions that must be made in developing a school finance plan, the translation of these decisions into formulas, and the method for assessing the impact of the entire system. Chapter III discusses the operation of the state-local revenue system and some of the issues associated with the revenue side of educational finance. Finally, Chapter IV presents the dimensions and purposes of the federal aid system. A Glossary is included to aid the reader in deciphering school finance terminology and a Bibliography for exploring some of the topics presented in greater detail.

CHAPTER II

HOW TO STUDY A SCHOOL FINANCE SYSTEM

The school finance system of any state uses a combination of federal, state and local revenues. This state-local revenue system is generally treated as a single entity since the state is ultimately responsible for education. The state has primary responsibility for funding and setting school district boundaries as well as establishing certification criteria and curriculum standards.[1] A state may delegate certain responsibilities to local school districts, but as recent court decisions have shown, the state cannot avoid overall responsibility for the results of that delegation.

We can evaluate the operation of a school finance system--how state and local revenues are raised and how they are distributed--by viewing it against a set of pre-determined goals. This process involves three steps:

1. recognizing the decisions that were made in establishing the goals of the state school finance system;

2. showing how these goals were translated into a specific school finance policy; and

3. assessing the impact of the total school finance plan.

This chapter is divided into five sections. The first section will discuss the general role of state aid to education in the state-local school finance system. The second section will point out the range of decisions underlying the selection of goals for the school finance system. The third section will discuss the development

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[1]Since the state has the responsibility for setting school district boundaries the definition of a school district will vary somewhat from state to state. In some states each county is a school district, whereas in other states there is no relationship between counties and school districts. School districts are generally of two types: dependent and independent. Independent school districts are separate governmental units and can establish budgets and levy taxes. Dependent school districts are fiscally dependent on other governmental units, typically large cities.

of a school finance plan, while the fourth section explains the provisions of the major general aid formulas. The fifth and final section will examine how to assess the impact of the total state aid plan.

The Role of State Aid to Education

The total amount of money for education available to school districts is a sum of locally raised revenues, state aid, federal aid and miscellaneous revenues. The role of state aid in this resource pool is to improve the quantity and quality of school services. Two major roles of state aid have been to stimulate the adoption of particular educational programs and to compensate for differing abilities among districts to support education. Although we will discuss the latter since it has become the focal point of recent reform efforts, attention should be given to the interaction of these two parts.[1]

Locally-raised revenues are generally based on the wealth and tax effort of the community:

Locally Raised Revenues for Schools = Tax Effort x Wealth,

where "tax effort" is usually defined as the school tax rate and "wealth" as taxable property base or property valuation.

This relationship between wealth and revenues makes it possible for a rich district to raise more revenue for education than a poor district even though both are applying the same tax rate. For example, a "wealthy" district with a property valuation of $100,000 per pupil and a tax rate of 10 mills (or 1 percent of valuation), could raise $1,000 per pupil, (.01 x $100,000 = $1,000); while a "poor" district with a valuation of $25,000 per pupil and the same 10 mill tax rate could raise only $250 per pupil, (.01 x $25,000 = $250).

State aid to education can be introduced to overcome disparities in expenditures that are caused by variations in local wealth. This is the traditional definition of "equalization". This distribution of

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[1]See glossary for a more complete definition.

money for "equalization" usually takes place through a formula where state dollars are distributed in inverse proportion to local wealth. In other words, the lower the district wealth, the more state aid it receives. As a result, the combination of state aid and local revenues enables a poor district to spend more nearly at the same per pupil level as a rich one.

State aid can also be used to equalize another kind of disparity. The amount of money needed by a district to finance education is dependent on the number of pupils in that district and the cost of educating each pupil. The cost of educating a pupil is determined by the educational need of that pupil. Need may be a reflection of a pupil characteristic; for instance, a pupil with a learning disability is more expensive to educate than a normal student. Need can also reflect the varying cost of educating a pupil because of differences in the cost of living throughout the state. State aid can be distributed in a way intended to overcome these disparities in educational needs.

A state aid plan that is designed to overcome disparities caused by wealth may not necessarily recognize disparities in educational need. For example, two districts of equal wealth but with different educational needs might receive the same amount of state aid under the first plan, while a plan designed to compensate for educational needs would offer them different amounts of aid. How equalization is defined, and the method used to determine the degree of equalization are critical decisions in the development of a state school finance plan. The next section of this chapter will examine the decisions that go into developing the goals of a school finance plan.

Establishing Goals for a State School Finance System

Most school finance systems have two major goals: to distribute state and local educational resources in a way that insures a measure of equality of educational opportunity (student equity), and to raise educational revenues in an adequate and equitable manner (taxpayer equity). Several questions must be answered before either of these general goals can be translated into a concrete school finance program:

- What is the definition of equity?
- What is to be equalized?
- How is the equalized resource defined?
- What degree of equality must be attained?

We will discuss each of these questions and show how different answers can lead to different school finance programs.

Defining Equity

The first step in designing a school finance formula is defining equity. Equity must be defined both in terms of what students receive and in terms of how revenues are raised.

Equalizing the Distribution of Resources. In designing a school finance plan that equalizes what students receive, one can choose between two concepts of equity:

1. equal treatment of all students, or
2. different treatment for different student needs.

A plan which defines equity as equal treatment for all distributes resources solely on the basis of the number of pupils in a school district. Some have argued that a plan based on the "same for everyone" is not equitable since there are many relevant differences among pupils which should be taken into account. An example of this second definition of equity--different treatment for different needs--is a school finance policy in which there is a distribution of additional funds for special education children.

A plan designed to compensate for differences in need must make clear which differences shall be taken into account. For example, some educators might argue that family poverty is a factor which requires compensation. A plan based on poverty must include some indicator of poverty--i.e., family income, per capita resources, receipt of welfare funds. Similarly, those educators who argue that early intervention is essential, must decide which grade levels will receive additional resources.

Equalizing How Revenues Are Raised. Let us assume that policy-makers have defined student equity as the same for everyone. A school finance plan has been implemented which insures that through a combination of state and local revenues, every district receives the same amount for each student. However, in order to raise its local share of the revenues, the poorer districts must levy a local tax rate that is twice as large as that of the wealthier districts. Student equity has been achieved but are the taxpayers being treated equally?

To define taxpayer equity the policy-maker must once again choose between the two definitions of equity--equal treatment for all, or different treatment for different needs. An example of a plan which provides equal treatment for all is one which guarantees equal expenditures for equal tax effort. Two districts levying the same property tax rate would receive identical per pupil expenditures.

This approach assumes that the only factor to be considered in determining a district's level of tax effort is the citizen's willingness to purchase educational services. In those communities where education is the primary governmental service, the tax effort for education reflects the demand for this service. However, in other communities, especially large cities, the demand for education may be as great, but the need to fund additional services--public safety, health and so forth--limits the amount of tax revenues that can be applied to education. As a result, the educational tax effort of these communities may be smaller. Therefore, the second definition of equity might be applied to the development of a school finance plan which gives districts with greater fiscal constraints more expenditures per unit of tax effort than those districts with lesser needs.

What is to be Equalized

After the policy-maker has chosen a definition of taxpayer and student equity, he must decide which resources--expenditures, services or programs--will be equalized in the education plan. A state aid

formula that equalizes expenditures is only concerned with the total amount of dollars available to each district. A plan based on services, on the other hand, focuses on the type and quality of the classroom resources since equal dollars do not necessarily guarantee that equal educational services will be delivered, due in part to differences in resource cost. Services which could be equalized include teacher/pupil ratio, physical facilities, teacher experience and education, etc. Finally, program equalization focuses on specific combinations of services, generally conceived of in terms of curricula offerings.

Several states have begun to discuss the issue of equalizing educational outcomes rather than educational resources. The New Jersey legislature, for example, in defining a "thorough and efficient" education, has mandated that school districts insure that students meet "minimum standards" of achievement at several points in their educational careers. However, the task of equalizing outcomes is conceptually difficult and involves value judgments. Are dollars related to educational outcome? How does one define outcome? By standardized test scores? If test scores are used, what is the level to which every student must be raised? In what academic areas? Are test scores valid indicators of educational achievement? Because of the complexities of these questions, very few states have taken the approach of using outcome measures as a way of defining educational need. However, in New York, New Jersey and Michigan poor student performance on state assessment examinations can result in a district's receiving additional state aid.

Defining the Equalized Resource

Once the resource to be equalized has been chosen, it must be specifically defined. If one is equalizing expenditures, shall total expenditures or only expenditures for a basic educational program be equalized? What are the components of a basic education program? Shall expenditures be adjusted for variations among districts in the costs of providing similar services? Cost adjustments are becoming

an important issue in many states.[1] An equalization plan based on services must specify the amount of services, and the specific types of services--teachers, counselors, gymnasiums, etc.--which are covered in the plan. If equalization is based on programs, the types of programs must be specified in detail.

Defining Other Formula Components

All equalization formulas now in use are shared-cost formulas--that is, revenues come from both state and local sources. The determination of state aid is usually based on three factors--the wealth, effort and need of the local district. The interaction of these variables will be explained in the next section when we look at the specific provisions of the major general aid formulas. Here we will examine how wealth, effort and need can be defined.

Need. The definition of a pupil is the cornerstone of any state aid plan because it is a measure of educational need of the district. While the definition of a pupil appears trivial and uncomplicated, in fact, the amount of resources disbursed to a district can vary dramatically depending on the definition employed.

First a choice must be made as to whether pupils shall be counted on the basis of membership or attendance. Membership is defined by the number of students enrolled in a school whereas attendance is defined by the actual presence of enrolled students. The impact of this choice can be seen in urban centers which generally have a high level

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[1]For a comprehensive study of cost indicies see: Donald E. Frey, The Determinants of Teachers' Salaries in New Jersey (Washington, D.C.: The National Urban Coalition, May 1976); Harvey Brazer, "Adjusting for Differences Among School Districts in the Cost of Education Inputs: A Feasibility Report," Selected Papers in School Finance, 1974 (Washington, D.C.: U.S. Department of Health, Education and Welfare, Office of Education, 1975); W. Norton Grubb, "Identifying Teacher Supply Functions and Constructing Cost Indices: Methodological Explorations with California Unified School Districts," Selected Papers in School Finance, 1975 (Washington, D.C.: U. S. Department of Health, Education and Welfare, Office of Education, 1976); Jay G. Chambers, Allan Odden and Phillip E. Vincent, Cost-of-Education Indices Among School Districts: An Application to the State of Missouri (Denver, Colo.: Education Commission of the States, December 1976).

of absenteeism. These districts would have a smaller pupil count and therefore receive less aid under a formula which used attendance rather than membership as its definition of pupils.

Another decision in counting pupils involves timing. The count may be made at a single point in time or it may be averaged over the school year. In districts in which enrollments or attendance decline over the year, the use of an average measure rather than a count early in the school year results in a lower pupil count and thus lower resources.

Pupil counts may also be used to achieve specific goals. For example, if a state defines equity as different resources for different needs, it can achieve this goal by counting students with a particular need as more than one unit. This procedure, called "pupil weighting", could count an elementary student as 1.0 unit, but an elementary student with special problems as 1.4 units. In this way, for each special education student, the district will receive 1.4 times the amount it receives for each typical student.

Other goals can be dealt with through a variation in the pupil definition. To lessen the impact of declining enrollments a plan might recognize only half the district loss in pupils by averaging over two years. For example, a district that had 600 pupils in 1974 but only 500 in 1975 would have a pupil count of 550 pupils in 1975 under this definition.

The way in which pupils are counted can also affect the definitions of wealth and effort. In many states the wealth measure is a wealth per pupil ratio, and the effort measure is an expenditure per pupil ratio. Differences in the number of pupils counted in a district can make the district look relatively wealthier (if the number of students decreases) or relatively poorer (if the number of students increases). Similarly, the per pupil expenditure level of a district can increase or decline according to the number of pupils.

Wealth. School aid formulas have traditionally defined district wealth as the amount of property value backing each student in the district. It should be noted that when we speak of state aid being

allocated in inverse proportion to local district wealth, the measure of local district wealth is typically equalized property value. Equalized property value differs from assessed property value in that it attempts to eliminate variation of local assessment practices. Some reformers have argued, however, that property wealth may be an inadequate measure of a local district's ability to support education. As a result, some states, such as Connecticut and Kansas, have revised their definition of school district wealth to include measures of both property wealth and income.

The measure of wealth used can make a district look richer or poorer. For example, an aging industrial city may have a high property wealth and a low income. A definition of wealth based solely on property valuation will make the city look rich, while a definition which modifies property valuation with an income measure will make the city look poorer for the purpose of calculating state aid.

Effort. The effort factor in equalization formulas is generally measured either by the local school tax rate or the district's educational expenditure level. As was noted in the previous section, tax effort could be defined as the total tax rate, or as some ratio of locally raised revenues to income wealth. If expenditures are used as a measure of effort, the specific categories of expenditures--total, current, basic education--to be included in the formula must be clarified. Once again changes in the definition of effort used in the formula can make substantial differences in the amount of aid a district will receive, even if the structure of the formulas remains unchanged.

How Equal is Equal?

A final consideration is to determine the degree of equality which is to be achieved and how much leeway will be tolerated. If a formula is designed to equalize expenditures, to what extent can one district spend more than another district--5%? 10%? 25%? Along with deciding the degree to which the measures may vary, decisions must be made as to what level and what unit shall be compared. Will the resources to be equalized be compared at the pupil level, the school level, or the district level?

Developing A School Finance Plan

Once the goals of student equity and taxpayer equity have been established, a school finance plan must be designed which will distribute and raise state and local education revenues in a way that fulfills these goals. Policy-makers face two problems in this effort. First, the success of the plan depends upon the extent to which local districts are legally bound to conform to state-determined limitations or constraints. Second, a plan which achieves student equity often is at odds with taxpayer equity, and a plan which achieves taxpayer equity often violates student equity. The one exception to this could be a totally state-financed system.

A state's school finance plan takes the form of one or more mathematical formulas. One plan can include an equalization formula, categorical aid programs, and minimum or save-harmless grants. Since the bulk of state aid is funneled through equalization formulas in most states, our discussion of state aid formulas will focus on equalization formulas. A brief description of the other types of state aid will follow.

Equalization Formulas

Since the turn of the century when the inequities in fiscal capacity among local school districts were first discussed, schoolmen, academicians and state legislators have grappled with how best to remedy this problem. Four major alternatives for relieving these inequities have been developed over the years--Minimum Foundation, Guaranteed Tax Base, Percentage Equalizing, and District Power Equalizing. Although these alternatives differ in their conception of the state and local role, and in the attributes of equalization which are highlighted, they all are based on the same components described in the previous section--wealth, tax effort, and need.

In explaining how these formulas operate, we will show how state aid is calculated for individual school districts. (To simplify calculations, state aid is expressed as a per pupil amount. In this way, the

need factor--pupils--is a constant in all the formulas.) We will also show the impact of these formulas on two hypothetical school districts--District A which has a property tax base of $25,000 per pupil and District B with a property tax base of $75,000--by calculating the amount of state aid for each district and showing the extent to which this state aid overcomes disparities in wealth.

Minimum Foundation Program

In the 1920s the most widely used school aid formula, the Minimum Foundation Program, was developed by George Strayer and Robert Haig[1] to relieve the inequities in fiscal capacity among school districts. Under the Foundation plan, each school district is guaranteed a basic amount of money for the cost of each pupil's education. This guaranteed amount is known as the foundation amount or minimum guarantee. Local school districts must contribute to this guaranteed amount. The local share is determined by levying a state mandated tax rate on a district's property valuation. The amount raised by a district from this tax rate is known as the required contribution. State aid is the difference between the foundation amount and the district's required contribution. Thus:

$$\begin{pmatrix}\text{State Aid}\\ \text{Per Pupil}\end{pmatrix} = \begin{pmatrix}\text{Foundation}\\ \text{Amount}\end{pmatrix} - \begin{pmatrix}\text{Required Contribution}\\ \text{Per Pupil}\end{pmatrix}$$

where

$$\begin{pmatrix}\text{Required}\\ \text{Contribution}\\ \text{Per Pupil}\end{pmatrix} = \left(\begin{pmatrix}\text{State Mandated}\\ \text{Local Tax Effort}\end{pmatrix}\right) \times \left(\begin{pmatrix}\text{Local Wealth}\\ \text{Per Pupil}\end{pmatrix}\right)$$

Let us assume that the state sets its Minimum Foundation Amount at $1,000 per pupil, and the required local tax effort for education at 10 mills, ($10 per $1,000 of property valuation or 1 percent). The state aid for our two hypothetical districts is shown in Table I.

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[1]George D. Strayer and Robert M. Haig, Financing of Education in the State of New York (New York: The McMillan Company, 1923).

District A receives $750 whereas District B with a higher property valuation receives only $250.

TABLE I

OPERATION OF MINIMUM FOUNDATION PROGRAM

District	1 Property Valuation	2 Foundation Amount	3 Required Contribution	4 State Aid (2 - 3)
A	$25,000	$1,000	$250	$750
B	75,000	1,000	750	250

A Minimum Foundation Program allows a participating district to tax itself at a rate above the mandated local tax effort. Known as a "local leeway," this add-on was an integral part of the original program. The supporters of the plan felt that local option would encourage adaptability and change within the educational system. However, a tax rate higher than the required tax rate will not cause an increase in state aid. Therefore the ability to raise revenues above the foundation level varies with the wealth of the district.

Let us assume that our two sample districts both choose to tax themselves at a rate of 2 percent: 1 percent for the minimum program plus 1 percent local leeway. For the additional 1 percent tax rate, District A can raise $250 in local revenue ($25,000 x .01) and District B can raise $750 from local taxes. Table II shows the result of local leeway.

TABLE II

LOCAL LEEWAY

Minimum Program

District	Valuation	Required Local Contribution	State Aid	Minimum Program
A	$ 25,000	$ 250	$ 750	$ 1,000
B	75,000	750	250	1,000

Minimum Program Plus Local Leeway

District	Property Valuation	Minimum Program	Yield 1% Local Leeway	Total Expenditures
A	$ 25,000	$ 1,000	$ 250	$ 1,250
B	75,000	1,000	750	1,750

With the same tax effort, a tax rate of 2 percent, District B can now spend $1,750 whereas District A can only spend $1,250. The impact of state aid has become less equalizing with the addition of "local leeway."

Therefore, the extent to which a Minimum Foundation formula is equalizing depends upon: the level of the state guarantee and the amount of local leeway chosen by the local district. As the state increases the level of its guarantee, a larger proportion of district expenditures become eligible for state aid and the disparities between districts lessen. As the local districts tax above the mandated tax rate, the disparities widen again, because the wealth of the district determines the amount of money which can be raised above the foundation level.

Guaranteed Tax Base

While the Minimum Foundation Program emphasizes the state guaranteed spending level, the Guaranteed Tax Base Plan emphasizes the state-determined tax base and the district's local tax effort. First, the Guaranteed Tax Base Plan is designed to assure that every district in the state can act as though it has a tax base the same as some state set level. Under a guaranteed tax base program the local school district chooses its tax rate for education. This tax rate is then applied to the guaranteed tax base and the actual tax base for the school district. State aid is the difference between what would be raised with the guaranteed tax base and what can actually be raised from the local tax base. The greater the difference between actual and guaranteed wealth, the larger the amount of state aid.

The Guaranteed Tax Base formula is:

$$\text{State Aid} = \left(\begin{array}{c}\text{Guaranteed}\\ \text{Tax Base}\end{array} \times \begin{array}{c}\text{Local}\\ \text{Tax Rate}\end{array}\right) - \left(\begin{array}{c}\text{Actual}\\ \text{Tax Base}\end{array} \times \begin{array}{c}\text{Local}\\ \text{Tax Rate}\end{array}\right)$$

Let us assume that a state guarantees a tax base of $100,000 per pupil. Let us also assume that District A with its per pupil valuation of $25,000 and District B with its property valuation of $75,000 per pupil each have a local tax rate of 10 mills, or 1 percent. Table III shows the state aid for these two districts.

TABLE III

GUARANTEED TAX BASE

District	Guaranteed Tax Base	Local Tax Base	Tax Rate	Guaranteed Revenues	Local Revenues	State Aid
A	$ 100,000	$ 25,000	.01	$ 1,000	$ 250	$ 750
B	100,000	75,000	.01	1,000	750	250

Since each district has the same tax rate of 1 percent, each is guaranteed revenues of $100,000 x .01 or $1,000 per pupil. District A raises $250 from its local tax base ($25,000 x .01 = $250). Thus, District A receives $1,000 - $250 or $750 in state aid. District B with a larger tax base receives only $250 in state aid.

Unlike the Minimum Foundation Program, the Guaranteed Tax Base Program provides districts with an incentive to increase tax effort since aid increases proportionately for every increase in the tax rate.

Let us assume that each district doubles its tax rate to 20 mills or 2 percent. Each district now has a revenue guarantee of $100,000 x .02 or $2,000. District A receives $25,000 x .02 or $500 in local revenues and $1,500 in state aid ($2,000 - $500). District B raises $1,500 in local revenues ($75,000 x .02) and $2,000 - $1,500 or $500 of state aid.

The degree of equalization under this plan is affected by the level of the guaranteed tax base and the size of local district tax rates. A high guaranteed tax base increases the difference between actual and guaranteed wealth, and will reduce the disparity in district expenditures by increasing the amount of state aid. If all districts with a tax base less than the guaranteed tax base levy identical tax rates (as in our examples), they will have equal revenues to spend on education. However, the proportion of state aid will vary. Spending in districts with tax bases above the state guaranteed tax base will be determined by the locally chosen tax rate and the size of the local property tax base. Because of intervening variables, some districts are not always able or do not tax themselves as heavily for education as do other districts. If this is the case, disparities in total expenditures will occur.

Percentage Equalizing

The Percentage Equalizing formula emphasizes the way that state and local governments divide the support of educational expenditures. This formula was designed to assure that the state would support a share (or percentage) of locally-determined educational expenditures. The share is larger in poor districts than in rich districts.

Under the Percentage Equalizing formula the state determines what percentage of educational expenditures it will support in the average district. The proportion of state support to each district is then determined in the following way.

Step 1: Determine a districts fiscal capacity by dividing the district's wealth by the wealth of the average district

$$\text{District Fiscal Capacity} = \frac{\text{District Wealth}}{\text{Wealth of Average District}}$$

Step 2: Determine the local share of expenditures for a particular district by multiplying the local fiscal capacity determined in step 1 by the state-determined local share for the average district. Since this amount is constant it is usually referred to as k.

$$\text{Local Share} = k \frac{\text{District Wealth}}{\text{Wealth of Average District}}$$

Step 3: Determine the state share of support for a particular district by subtracting the local share from 1.

$$\text{State Share} = 1 - \text{Local Share}$$

Step 4: Determine state aid by multiplying the state share by expenditures in the district.

$$\text{State Aid} = \left[1 - \left(k \frac{\text{District Wealth}}{\text{Wealth of Average District}} \right) \right] \text{District Expenditures}$$

Let us assume that the state decides that the average district should provide 60 percent of its expenditures and the remaining 40 percent will be provided by the state. Further assume the average district has a valuation of $50,000 per pupil and each district has expenditures of $1,000 per pupil. State aid is calculated in the following way for district A ($25,000 valuation) and District B ($75,000 valuation).

Step 1: Determine district fiscal capacity by dividing the district property valuation by the valuation in the average district.

District A	District B
= $25,000/$50,000	= $75,000/$50,000
= 0.50	= 1.5

Step 2: Determine Local Share of Educational Expenditures by multiplying the State Mandated Local Share by the District Fiscal Capacity determined in Step 1.

District A	District B
= (.60) (.50)	= (.60)(1.5)
= .30	= .90

Step 3: Determine State Share of Educational Expenditures by subtracting the Local Share determined in Step 2 from 1.00.

District A	District B
= 1.00 - .30	= 1.00 - .90
= .70	= .10

Step 4: Determine State Aid by multiplying the State Share determined in Step 3 by the District's Expenditures.

= (.70)($1,000)	= (.10)($1,000)
= $700	= $100

If the formula presented previously were used the calculations would be:

$$\text{State Aid} = \left[1 - \left(k \frac{\text{District Wealth}}{\text{Wealth of Average District}}\right)\right] \text{District Expenditures}$$

District A	District B
$= [1.00 - (.60)(\frac{\$25,000}{\$50,000})]\ \$1,000$	$= [1.00 - (.60)(\frac{\$75,000}{\$50,000})]\ \$1,000$
= [1.00 - (.60)(.50)] $1,000	= [1.00 - (.60)(1.50)] $1,000
= (1.00 - .30) $1,000	= (1.00 - .90) $1,000
= (.70)($1,000)	= (.10)($1,000)
= $700	= $100

Since the district fiscal capacity is lower in poor districts, under the Percentage Equalizing Plan the state supports a greater percentage of a poor district's expenditures and a smaller percentage of a rich district's expenditures. District A receives seventy percent of its expenditures from the state while District B receives ten percent.

The degree to which the Percentage Equalizing Plan equalizes expenditures depends on the level of state support. The larger the state share of expenditures, the more equalizing the plan. In addition, the local district must choose a level of educational expenditures. Two districts of equal property wealth often do not spend the same amount of money on education, and the district with the higher expenditure level will receive more state aid. Extreme differences in expenditure levels can even result in wealthy districts receiving more state aid than poorer ones.

District Power Equalizing

The early equalization formulas--minimum foundation, guaranteed tax base and percentage equalizing--attempted in varying degrees to minimize the disparities in education expenditures which resulted from variations in the fiscal capacity of districts. The studies and court cases of the 1960s and 1970s showed, however, that the distribution of state aid under these formulas fell short of the goal of wealth neutrality.

District Power Equalizing (DPE)[1] was one of the first modifications of an existing equalization plan to be introduced. DPE is thoroughly consistent with the "capacity equalization" tradition which distributes state aid in inverse proportion to local taxable resources. However, it is innovative in its emphasis and substance. DPE focuses on the effort factor and guarantees that for any given level of tax effort, all districts will be guaranteed an equal level of spending through a combination of local and state revenues.

District Power Equalizing assures that each district will receive an equal yield for an equal effort. This plan is usually presented as a table of guaranteed expenditure levels which correspond with tax efforts established by the state. For example,

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[1]This concept was introduced in John E. Coons, William H. Clune, and Stephen D. Sugarman, Private Wealth and Public Education (Cambridge, Mass: Belknap Press, 1970).

Tax Effort (%)	Guaranteed Level of Expenditures
.01	$ 1,000
.02	2,000
.03	3,000

The district chooses a level of educational expenditures and an associated tax rate. If the district is unable to generate revenues equal to the guaranteed level of expenditures when applying the chosen tax rate to its tax base, the state makes up the difference.

For example, using the schedule shown above, if District A with its valuation of $25,000 per pupil and district B with a valuation of $75,000 per pupil choose a tax rate of .01 they will receive state aid of $750 per pupil and $250 per pupil respectively. (see Table IV.)

A feature which distinguishes DPE from traditional formulas is the possibility to "recapture" local revenues. Local districts which raise more than the state guaranteed amount for a specific tax rate must pay back the excess to the state for redistribution to poorer schools (i.e., those with less valuation per pupil). For instance, assume that a district has a valuation of $150,000 per pupil and that the DPE schedule is the same as above. At a 1 percent tax rate this district would raise .01 x $150,000 or $1,500. The state guarantee for this tax rate is $1,000; therefore, this district would have to return $500 per pupil to the state. No earlier school equalization formulas have included "recapture." At least four states (Utah, Maine, Montana and Wisconsin) have recently enacted district power equalizing provisions with "recapture."[1]

The most important decision to be made by the state under the DPE plan is the design of the DPE schedule. The example shown above illustrates a linear relationship between increased tax effort and guaranteed expenditures. The schedule could be designed to discourage

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[1] W. Norton Grubb, New Programs of State School Aid (Washington, D.C.: National Legislative Conference, 1974). Joel S. Berke, Answers to Inequity, (Berkeley, California: McCutchan Publishing Co., 1974), Chapter 4 and Appendices D, E, F, and G.

higher expenditure levels by requiring more effort for each additional dollar in the higher expenditure ranges. Once again the choice of the tax rate is left to the local district. Since inequities exist in the ability of districts to provide an equal effort, researchers have begun to question the extent to which DPE formulas are truly equalizing.

TABLE IV

DISTRICT POWER EQUALIZING

District	Property Valuation	Tax Rate	Local Revenue	Guaranteed Expenditures	State Aid
A	$ 25,000	.01	$ 250	$ 1,000	$ 750
B	$ 75,000	.01	$ 750	$ 1,000	$ 250

Full State Assumption

Full State Assumption has been offered as an alternative to shared cost formulas. Theoretically, Full State Assumption is a situation in which the state contributes 100% of the educational expenditures in the state, and the local districts contribute 0%. Variations in educational expenditures are based on the need rather than the wealth of the local districts.

The basic difference between Full State Assumption and a shared cost formula is that the state determines the ultimate level of education expenditures in the district. Also, the revenue raising under Full State Assumption is somewhat more flexible. Local school districts primarily depend on the property tax to raise funds. If the state assumes full responsibility for funding education it could levy a state wide property tax or it could take the additional revenues from its treasury through its existing tax structure.

In adopting a Full State Assumption program, policymakers must be willing to make certain trade-offs. First, Full State Assumption elimi-

nates local choice in determining the size of the local school budget and the size of the school tax levey. Second, centralization of the raising of education monies may limit local automony in determining how the money is spent. Finally, the decision-maker is under greater pressure to insure that the system for distributing revenues seeks a correspondence between educational revenues and educational needs in each district.

Equivalence of the Shared Cost Formulas

To summarize, the basic school finance formulas discussed are shared cost formulas with contributions coming from both state and local sources. Aid in each of these formulas is allocated in inverse proportion to wealth, and the various formulas highlight different attributes of equalization. The Minimum Foundation Program highlights the guaranteed expenditure level and assures a state-defined basic spending level for all districts making an acceptable minimum tax effort. The Guaranteed Tax Base Plan highlights the state guaranteed tax base. Under this program a state-defined tax base is guaranteed to each district and those districts with tax bases are at the guaranteed level. The Percentage Equalizing Formula highlights the state share of expenditures; the state determines the proportion of school costs it will support and equalizes locally determined educational expenditures in the district. Finally, District Power Equalizing highlights the effort factor and assures an equal yield for an equal effort; districts with the same effort will receive equal revenues through a combination of local and state funds.

Although the equalizing ability of shared costs formulas based on these general approaches varies with specific implementations, in their pure form the formulas are mathematically equivalent[1] and can yield the same results. (See Appendix I for a demonstration of the comparability of the formulas). Therefore

[1]For a detailed discussion of the equivalence of these school finance formulas and proof of their mathematical equivalence, see Peter Jargowsky, Jay Moskowitz and Judy Sinkin, School Finance Reform: Decoding the Simulation Maze (Princeton, New Jersey: Education Policy Research Institute of the Education Testing Service, June 1976).

the selection of a specific formula is secondary to defining the various components of the formula--wealth, effort, and need--and establishing the relationship among these components. For example, let us look at the wealth component. The way in which we define wealth--as property wealth, income wealth, or some other measure--determines the extent of the district's ability to support education. In districts that are property rich and income poor the use of property valuation rather than income makes them look wealthy; the use of an income measure will have the opposite effect. For example, in New York City property measures of wealth make the district look relatively wealthy, whereas income measures make the district appear average.

The choice of definitions for each component is a value judgment, as we have seen, and a political decision. Different districts within a state will benefit in different ways from these definitions; and the final choice can be a political tradeoff. For example, New York City may be willing to trade a definition of wealth which has no effect on the amount of state aid it receives for a more beneficial definition of pupils which will increase its state aid payments. Districts in which the choice of pupil counts will make little difference might be more concerned with the definition of the wealth factor, especially if their property wealth and income wealth are not related.

Non-Equalizing General Aid Formulas

The formulas we have discussed up to this point are designed to relieve inequities in fiscal capacity among local school districts. As such, they are called "equalization formulas." Many states have additional state aid provisions which provide districts with aid for general operating expenditures, but which are not designed to overcome differences in district wealth. Two common provisions are "minimum aid" and "save-harmless aid."

Minimum Aid or Flat Grants

A common feature of many school finance plans is "minimum aid"--usually a dollar amount which every district is entitled to receive. Minimum Aid is commonly distributed through a state aid formula called

a Flat Grant. A Flat Grant is a payment made by the state to local school districts based solely on the number of pupils enrolled and/or the number of personnel employed. Under the Flat Grant program, all districts receive the same amount of state aid per pupil. In this system, the wealth and effort of a district are not considered in the allocation of the aid.

The rationale for the use of "minimums" in state aid formulas is that the state, having primary responsibility for the provision of education, should support some part of every district's total education bill, however small that contribution. Political pressures, too, are often the "justification" for including minimum grant provisions in state school finance plans.

Save Harmless Provisions

Save harmless or "save from harm" provisions are established to insure that the amount of state aid received by a district (either per pupil or total) under a new plan does not differ radically from payments received in a prior year. The reasons for "save harmless" range from political necessity to avoidance of sudden shifts in tax rates or expenditure patterns. The provisions may require that calculated aid for the new year shall not be less (per pupil or total) than that received in a prior year. Although the effect of a save harmless provision is similar to that of a minimum, a minimum is a set amount that is equal for all districts (in a class) while the save harmless level can vary from district to district.

Categorical Aid

A final type of state aid that is commonly distributed to all school districts is categorical aid. Categorical programs are designed to address specific educational needs, such as transportation, compensatory education, vocational education, and so forth. Although categorical aid may be disequalizing as measured on a capacity equalizing

basis, it may serve to meet student equity objectives. These grants encourage local districts to provide special services and programs that they might otherwise be unwilling or financially unable to offer.

Categorical aid may be distributed through a number of different mechanisms. Aid may be paid to a district as a reimbursement for expenditures made for special activities. For example, a state might reimburse a school district for one-half of the actual cost of running a special education class, or for all of the cost of transporting students to and from school. Aid may be distributed as a flat grant; a state might give districts an additional allocation for every student classified as needing specialized education. In these two cases, the determining factor for receiving categorical aid is the size of the educational need--for example, the number of handicapped students--rather than the wealth of the district. As a result, the distribution of some categorical grants may have a positive relationship to the distribution of wealth in the district. For example, if it is a state policy to pay 100% of the cost of transportation, a rich, low density suburb may receive a per pupil amount for transportation aid several times greater than that of the poorer, high density urban area which has limited transportation needs.

Categorical aid can be distributed in a way that equalizes for wealth as well as for educational needs. Several states now use "pupil weighting systems" for distributing categorical funds. Pupils are given additional weights according to their educational need and these pupil counts are then incorporated into the regular equalization formula. The result is that more state aid flows to those districts which have a relatively larger pupil count, and districts that are poor receive proportionately more aid for the additional pupils than those that are wealthy.

Adding Up the Pieces

The way in which state aid is distributed--through equalization aid, minimum aid, save harmless aid and categorical aid--varies from state to state. Table V shows the dependence of different states

TABLE V
STATE SCHOOL AID FOR LOCAL SCHOOL DISTRICTS[1]

State	Equalized State Aid	Type of Equalization Programs	Flat Grants or Minimum Aid	Categorical Aid and Other Formula Grants
Alabama	87%	Foundation	5%	8%
Alaska	74	Percent Equalizing	1	25
Arizona	94	Foundation	3	3
Arkansas	19	Foundation	70	11
California	49	Foundation	27	24
Colorado	85	Guaranteed Tax Base		15
Connecticut*	-	Percent Equalizing	69	31
Delaware	3	Foundation	62	34
Florida	89	Foundation	1	10
Georgia	82	----------	-	18
Hawaii	-	Foundation	48	52
Idaho	85	Foundation	-	1
Illinois	80	Foundation	-	10
Indiana	89	Foundation	8	3
Iowa	96	DPE	1	3
Kansas	72	Foundation	6	22
Kentucky	97	Foundation	3	-
Louisiana	88	Foundation	2	6
Maine	100	Foundation	-	1
Maryland	47	Percent Equalizing	-	35
Massachusetts*	76	DPE	-	24
Michigan	82	Foundation	-	18
Minnesota	76	Foundation	2	23
Mississippi	81	Foundation	3	16
Missouri	78	Foundation	4	18
Montana	96	Foundation	-	3
Nebraska*	34	Foundation	46	20
Nevada	100	Foundation	-	-
New Hampshire	20	Foundation	20	60
New Jersey	43	Guaranteed Tax Base	-	32
New Mexico	92	Foundation	1	7
New York	98	Foundation	1	1
North Carolina	-	----------	91	9
North Dakota	85	Foundation	7	8
Ohio	61	DPE	-	35
Oklahoma	68	Foundation	-	31
Oregon	18	Foundation	71	10
Pennsylvania	79	Percent Equalizing	-	21
Rhode Island	94	Percent Equalizing	-	7
South Carolina	-	----------	92	9
South Dakota	78	Foundation	15	6
Tennessee	90	Foundation	5	5
Texas	75	Foundation	23	2
Utah	74	Foundation	1	7
Vermont	75	Percent Equalizing	-	25
Virginia	52	Foundation	21	17
Washington	73	Foundation	-	27
West Virginia	79	Foundation	15	6
Wisconsin	87	Guaranteed Tax Base	1	13
Wyoming	100	Foundation	-	-
AVERAGE STATE DISTRIBUTION	68		15	15

[1]Other support services are not included.

* 1974-75 Distribution

Source: U. S. Department of Health, Education and Welfare. Bureau of School Systems, Office of Education, Public School Finance Programs, 1975-76. Esther O. Tron, editor. (Washington, D.C.: Government Printing Office, 1976).

on different types of state aid. This table also shows the type of equalization formula that is used in each state. The Minimum Foundation Program is the most widely adopted by the states. Thirty-four states use some form of Minimum Foundation Program. Three states use Guaranteed Tax Base, six use Percentage Equalizing and three use District Power Equalizing. Since some of these aid programs conpensate for differences in wealth, while others are not wealth equalizing, we must assess the "equity" of the state aid plan as a whole, not piecemeal. The final section of this chapter examines how to assess the impact of the total state aid plan.

Assessing the Impact of the School Finance Policy

The most important step in evaluating a school finance policy is assessing the impact of that policy on school districts. Is this policy leading to a more equitable raising and distribution of revenues?

Assessing the impact of a school finance policy involves four steps: establishing the definitions of equity; calculating the local tax effort and distribution of aid to districts; determining if the distribution of resources is equitable; and finally, discovering why equity has not been achieved.

Establishing the definitions of equity

How are the goals of the school finance system defined? What are the definitions of equity? What resource is equalized and how is it defined? What degree of equity must be achieved? Let us assume that student equity is defined as equal total expenditures for every student in the state, allowing five percent variance, and taxpayer equity is defined as every school district having an equal school tax rate.

Calculating the distribution of resources and the local tax effort

In order to determine the distribution of expenditures under the school finance plan, one must calculate two figures: the total amount of state aid (from equalization aid, minimum aid, categorical aid,

and other state aids) for each district and the amount of locally raised revenues for education.[1] The sum of these figures will serve as a measure of how equitably expenditures are being distributed throughout the state.

The second set of figures needed for this analysis is the tax effort of the districts. This number is found through the use of the following formula:

$$\text{Tax Effort} = \frac{\text{Locally Raised Revenues For Education}}{\text{District Wealth}}$$

where wealth is normally defined as district property valuation.

Determining if the distribution is equitable

The next step involves comparing the distribution of total expenditures among districts to see if the goal of equal expenditures has been achieved. This analysis can be done in a number of ways. The easiest approach is to find the average total expenditure per pupil in the state and then see how nearly each district's total expenditure per pupil approaches this average. If the total expenditure per pupil of any district is more than 105% of the average, or less than 95% of the average, equity under this hypothetical plan has not been achieved. If the analyst has access to a computer, more sophisticated analytical tools, such as weighted means, coefficients of variation and Gini coefficients, can be used to measure the degree of disparity in expeditures. However, one can get a good idea of how equitable the system is by merely "eyeballing" a rank distribution table.

One must also compare the tax effort of the districts. The same procedures are used as in analyzing the variation in total expenditures. Once again, if the goal is to achieve equal tax rates for all school districts, one is concerned with how much the local tax rates vary across districts.

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[1] See chapter 4 for the effect of federal aid.

Why isn't the system achieving equity?

If we find that the existing school finance policy is not achieving either student equity or taxpayer equity, our last concern is to determine the causes of the inequities. One must go back and analyze the impact of each part of the school finance program--the equalization formula, the categorical grant program, minimum aid to save harmless provisions, the amount of local leeway allowed in raising local school revenues--to determine which parts are equalizing and which parts are non-equalizing. It may be that the equalization formula alone achieves an equitable distribution of state funds, but that the categorical program gives more funds to wealthy districts than to poor ones. Or the local districts, in making decisions concerning local tax effort, are behaving in a manner that upsets the equalizing tendencies of the state aid portion of the plan. For example in a foundation program, if wealthy districts raise additional money under "local leeway" provisions, the entire program will be achieved as long as the state controls only the distribution of state aid, and does not impose expenditure and/or tax limits on local districts.

Summary

The school finance system of any state uses a combination of locally-raised education revenues and state education revenues. In order to determine how "equitable" this system is, the investigator must recognize the decisions that were made in establishing the goals of the school finance system, show how these goals were translated into a specific school finance policy, and measure the results of this system against the state's goals.

This discussion of how to study a school finance system has been limited in two ways. First in our discussions of how to raise revenues equitably, we limited our focus to state government and local school districts as units of analysis. An important related issue, covered in Chapter III, is the tax structure of these governmental units and the impact of this tax structure on the individual taxpayer. How does one go about defining taxpayer equity for the individual?

Second, our discussion of school finance resources has been limited to state and local revenues, yet federal aid to education provides nearly 8 percent of total educational funds. The scope and provisions of federal aid to education will be the subject of Chapter IV.

CHAPTER III

RAISING THE MONEY: STATE-LOCAL REVENUE SYSTEMS

State and local governments dominate public school financing and public school revenues dominate state and local budgets. Nationally, roughly 40 percent of total elementary and secondary school costs are borne by the state and 50 percent by local governments. In 1975-1976 this support exceeded $62 billion, and claimed on the average 40 cents of every dollar of state-local general outlay. Therefore, the rapid increase in educational expenditures over the last decade has placed great pressure on both state and local budgets. How are the bills paid?

State revenue systems are as diverse as school finance plans, and like the latter, reflect the socio-economic makeup, the political culture, and the service needs of each state. These systems draw on a wide variety of revenue sources. While local governments rely primarily on the property tax for income, state governments use a combination of sales, personal income, corporate income, and excise taxes to raise revenues; only two percent of state tax revenue on the average comes from the property tax. Table VI shows the specific taxes used by states to raise revenues.

It is important to understand the structure of each state's revenue system to assess its efficiency and equity. First, each tax has a different revenue-raising capacity; it responds differently to changes in the state's economy. Second, each tax has a different tax incidence, or burden; some taxes take equal proportions of every taxpayer's income, others take a larger proportion of the income of low income taxpayers, while others take a larger proportion of the income of high income taxpayers. Therefore, each state, with its different mix of taxes, will have differing capacities for revenue-raising and different burdens of taxation. These issues will be discussed in greater detail later in this chapter.

TABLE VI

STATE TAX REVENUE BY TYPE OF TAX, 1975 (in percentages)

Source of State Tax Revenues	United States Average
General Sales Tax	30.9%
Individual Income Tax	23.5
Gasoline Tax	10.6
Corporate Income Tax	8.3
Motor Vehicle Registration	4.6
Tobacco Tax	4.1
Alcohol Tax	2.4
Death and Gift Tax	1.8
Property Taxes	1.8
Insurance Tax	2.2
Other Taxes	9.8

Source: U.S. Department of Commerce, Bureau of the Census, State Tax Collection in 1975.

The primary source of tax revenue for local governments is the property tax. As state governments have turned to other sources of revenue, the states have limited the local governments' use of these additional taxes. School districts in particular have been locked into the use of the property tax as the only source of tax revenue[1] Almost all monies needed by the schools after state and federal aid and tuition receipts have been collected must be raised through this one tax.

A majority of states require that citizens in a school district vote on either the property tax rate to support education or the school budget itself. In recent years passing school budgets and school millage referendums has become increasingly difficult. This resistance by the taxpayers has not only been a rejection of increasing funds for education, but also a repudiation of the prevailing methods of raising local school revenue--the heavy reliance on local property taxes. Although this revolt has not markedly slowed the rise in school expenditures, in some places it has resulted in shortened school years, reduced curricular offerings, teacher layoffs, and the abolition of extracurricular activities.

The Issues

The remainder of this chapter will raise issues associated with the use of the state-local revenue system to finance education. How equitable and efficient is the existing state-local revenue system? What is the financial ability of local districts to keep pace with rising educational expenditures? What is the fiscal capacity of state government to increase its share of the total education bill, as many reformers have advocated? In discussing these questions, we will look briefly at the incidence or burden of state and local taxes, property composition, the efficiency of property tax administration, and the competition for funds that education faces on the state and local level.

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[1] An exception is the case of dependent city school districts which can draw on the wider revenue base of their municipalities. This revenue can come from sales taxes and occasionally from income taxes as well as property taxes.

The Burden of Taxation

One way to evaluate a state-local tax system or a specific tax is to examine the burden it places on individuals at various income levels. An "ability-to-pay" standard means that individuals should devote a larger share of their income to taxation as their income rises. A tax system in which the ratio of "taxes paid to income" rises as an individual's income rises is called progressive. A proportional tax gathers the same percentage of everyone's income, regardless of what that income is. A state income tax which collects two percent of everyone's income is a proportional tax, while the federal income tax is an example of a progressive tax. A regressive tax is one in which the tax burden decreases as an individual's income rises, so that high income people pay a smaller share of their income in taxes than do low income groups. The sales tax is viewed by many economists as a regressive tax.

Research over the years has shown that the mix of taxes now used by state governments has a proportional or progressive burden or incidence, depending upon the weight placed on the personal income tax and sales or use taxes. It has been argued that the major source of local revenue, the property tax, is a regressive tax and has, on the average, given the total state-local tax system a slightly regressive incidence. This latter conclusion is a controversial one, however, since economists disagree as to who really pays and, therefore, who bears the burden of the property tax. The traditional argument as laid out in Dick Netzer's Economics of the Property Tax is that the property tax acts like a high sales tax on residential and other property. Therefore, the residential portion of the property tax is borne by individuals in proportion to their spending for housing, and the business property tax is passed on to consumers of the business' products or services. Other economists argue that the property tax burden is borne by owners of capital: for example, the landlords of apartment buildings or owners of businesses[1]. A third view is that the

[1]For a detailed discussion of this point of view, see Peter Miewszkowski's "Tax Incidence Theory: The Effects of Taxes on the Distribution of Income," Journal of Economic Literature, Vol. 7.

burden of the property tax is divided between renters, on the one hand, and investors (owners of capital) on the other[1].

These differing views regarding who pays the property tax result in three interpretations of the way the property tax burden is distributed. If the first view of the property tax is held, then the classic pattern of a regressive tax emerges: those earning less than $3,000 pay a much larger percentage of their income in taxes than do those earning $50,000 or more. If the property tax is viewed as falling on owners of capital only, then the burden distribution is regressive for those earning less than $15,000 and progressive for those earning more than $15,000. A similar pattern results from the third interpretation of property tax incidence.[2] All three interpretations result in tax regressivity for the low income class.

Property Composition

Another factor which affects the ability of local districts to raise revenues is the composition of the district's property tax base. The property tax base is made up of residential, commercial, industrial, farm, personal and open space properties. The effect of differing property tax base compositions on tax burden within a school district can be seen in the following example.

District A is a suburban community with little commercial or industrial property; its total tax base is one million dollars. District B, with similarly priced homes, has substantial industrial and commercial activity; its tax base is three million dollars. If

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(December 1969), pp. 1103-1124, and "The Property Tax: An Excise or a Profits Tax?" Journal of Public Economics, Vol. 1 (April 1972), pp. 73-96; Henry J. Aaron, Who Pays the Property Tax?: A New View (Washington, D. C.: The Brookings Institution, 1975); and Joseph A. Pechman and Benjamin A. Okner, Who Bears the Tax Burden? (Washington, D. C.: The Brookings Institution, 1974); Allan Odden and Phillip Vincent, The Regressivity of the Property Tax, Denver: Education Commission of the States, 1976).

[1]Advisory Commission on Intergovernmental Relation, Financing Schools and Property Tax Relief--a State Responsibility, A-40 (Washington, D. C.: U.S. Government Printing Office, 1973) p. 33.

[2]Ibid.

both districts seek to raise the same amount of educational dollars per pupil, District A will have to levy a tax rate three times as large as that in district B. Therefore, a homeowner in District A will have to pay three times as much property tax as a person in District B who owns a similarly priced home.

Property Tax Administration

The equity of the state-local tax system can be further disrupted by inefficient and inequitable administration of the property tax. The two most serious and most publicized administrative faults of the general property tax are underassessment, and lack of uniform assessment.

Although a majority of states require full value assessment, the normal practice of assessors has been to value property at some percentage of its fair market value. The 1967 Census disclosed that the ratio of assessed value to real property value ranged from 5.0 percent in South Carolina to 84.0 percent in Kentucky, the national average was 32.6 percent of market value. Undervaluation in itself is not inequitable; the practice of undervaluation, however, has tended to induce inequity in individual assessments by removing a definite standard by which the assessor and citizens can compare the assessment of one property with that of a neighboring property.

A second problem is the lack of uniform assessment among jurisdictions due to variations in local assessment practices. Differences in assessment practices have led most states to employ equalized property valuations as a measure of property wealth in state aid formulas.

A related problem is the lack of uniform assessment within a jurisdiction. A classic study of the property tax in Boston by Aaron and Oldman in 1966 revealed that the owner of a $5,000 to $10,000 house is likely to be assessed at 44% of the fair market of his house while the owner of a $35,000 to $50,000 house is likely to be assessed at 35%. This variation in assessment ratios exacerbates the inequities of the property tax.

During the last several years, many states and localities have begun to reform the administration of the property tax. These reforms include regional and statewide assessment of property, standardization of assessment practices at the local level, increased monitoring of real estate sales throughout a state, by means of state-level departments, and the use of computer techniques for assessing property.

Competition For Funds

To minimize inequities resulting from a heavy reliance on the local property tax, most new school finance reforms increase the state share of educational expenditures. These reforms have assumed that the states can generate the extra revenue to support this increase in state aid. One factor in assessing the states' ability to spend more on education is the competition for funds coming from other services. During the 1950's and 1960's education generally received first crack at both local property tax resources and state aid funds. Indeed, when school finance reforms were first advocated in the 1960's, state treasuries had surplus revenues or federal revenue-sharing money available to fund the new finance laws. The economic downturn of the early 1970's, however, led to a drain on state budgets in the areas of welfare and unemployment compensation, at a time when state tax revenues were barely increasing. In addition, the public has recently demanded new or more non-educational services from state government, such as support for public transportation and environmental protection programs. As a result, at a time when reformers want more state aid to education, education must now prove its worth as compared to other public services. To preserve or increase the schools' share of the state-local budget in the face of stablizing revenues, changing consumer preferences, and steady or declining student enrollments, educators are being asked to justify every additional dollar spent on education.

Conclusion

The state-local revenue system in every state is unique, but the problems confronting these state systems are universal. Evaluation of the equity and efficiency of the revenue raising side of school finance plans must consider the state-local tax structure, the overall burden of this mix of taxes, the quality of state and local tax administration, the property composition of local taxing units, and the competition for funds facing education.

We have limited our discussion in the first three chapters to the role of state and local government in the school finance system. Our concluding chapter will now examine the structure and impact of federal aid.

CHAPTER IV

FEDERAL AID

For those concerned with reform of state school finance systems, an understanding of the dimensions and purpose of federal aid is necessary for two reasons: (1) federal aid serves purposes not generally met by school finance reform but which are vital to an effective system of education; (2) Congress is beginning to use federal aid as a stimulus to reform state school finance systems in a variety of ways.

Misapprehensions About Federal Aid

Unfortunately, two misapprehensions widely shared by those who develop, pass, and implement state education policies tend to dampen state interest in federal aid: (1) federal aid provides too small a proportion of public school funding to warrant much attention; (2) federal aid is controlled by the federal government, and thus it is not really a state and local concern. While each of these positions has some surface plausibility, neither can withstand careful examination.

While the overall contribution of federal funds to the support of public elementary and secondary education may constitute only seven or eight percent of total public school spending, the state of Mississippi in recent years has received about 25 percent of its school revenues from the federal government and another half dozen states have received better than 15 percent of their school revenues from federal programs. For many school districts, federal aid is even more important: city districts as varied as Colorado Springs, Colorado; Albany, New York; San Antonio, Texas; and Norfolk, Virginia receive between 25 and 30 percent of their instructional expenses for elementary and secondary schools from federal aid.

That the volume of federal aid is not too small to merit the interest of state education policymakers can be seen in two other effects as well: better than half of most state education department

personnel are supported by federal funds, either through Title V of the Elementary and Secondary Education Act (ESEA) or through the percentage of funds from each federal program intended for state administrative purposes. Furthermore, in certain areas of federal interest, federal aid provides the predominant funding and influence.

In short, while the federal government may provide less money for public schools than state or local governments, federal funds provide strategically important funding that has a far larger effect than its aggregate proportion of school funding would suggest.

The second misapprehension about federal aid--that it is federally controlled and leaves little room for state policy direction--also fails to survive close investigation. Those who have studied the question have come to quite a different conclusion. A three year study which investigated both the distributional patterns of federal aid and the political and administrative factors which caused those patterns in six states noted:

> . . . the immense areas for state discretion that exist in the allocation of most federal programs. This discretion is partly a result of statutory language that permits state development of distributional formulas and procedures, and partly the result of a lack of enthusiasm that USCE administrators have for enforcing or policing aid programs.[1]

While such discretion has sometimes permitted the maintenance of traditional state practices which conflict with federal objectives, the ability of states to funnel federal aid to serve their own objectives makes federal aid policy an important state finance policy arena. Focusing federal funds on reform purposes integrated with or supplemental to state legislation could substantially increase the power of state finance systems to meet educational and legislative objectives. In any event, a substantial proportion of federal aid policy is amenable to state discretionary influence.

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[1] Joel S. Berke & Michael W. Kirst, Federal Aid to Education: Who Benefits? Who Governs? (Lexington, Mass.: D.C. Heath, 1972), 400-401.

Development of a Federal Role in Education

What is the justification for federal involvement in what is traditionally a local and state concern? First, there are some problems that, while nationally induced, affect only a relatively small number of school districts. A number of federal programs, such as P.L. 874 (Impact Aid) are designed to relieve individual states and school districts of these educational costs. Second, some national goals may not be perceived, shared or given sufficient priority by states and school districts. Notable in this regard has been the goal of equality of educational opportunity through Headstart, the Elementary and Secondary Education Act (ESEA), the Emergency School Assistance Act (ESAA), and the Elementary School Assistance Program (ESAP). Third, needed activities such as educational research may benefit the states and school districts of the entire country, but be beyond the resources of individual school districts or even the states. The Educational Laboratories and "R and D" Centers under ESEA and the creation of the National Institute of Education exemplify this reason for federal funding. Ultimately, however, the basic reason for current federal aid is that the day has passed when schools can be neatly labeled "local." Education has a great variety of economic and social spill-ins and spill-outs, and the costs or benefits of well or poorly educated individuals are not restricted to the locality where they receive their schooling. Americans move several times in their lives and, wherever they live, they participate in the national economy and the democratic process, so that the level of citizen education is a basic national resource.

For all these reasons, programs of federal support for education have been adopted. Some are designed to achieve their purpose through heavy reliance upon federal funds; others use relatively small proportions of federal money as levers to alter or influence state and local policy.

National purposes have played a part in public education since the early years of the nation's history. Legislation providing the first national aid to education--the provision of land for the building of schools or for the support of education--was passed in 1785 by the

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Continental Congress. Even the modern form of federal aid, categorical programs of grants-in-aid, has a tradition stretching back more than fifty years to the Smith-Hughes Vocational Education Act of 1917. Unlike support in the form of general revenues which may be used for any legitimate purpose selected by the receiving jurisdiction, most federal aid programs are reserved for particular, specifically designated uses. This federal categorical approach--to be contrasted with general aid, which is preponderant in state aid systems--has been closely related to national events and goals.

During the Depression of the 1930's the federal government initiated programs to furnish inexpensive milk and school lunches. The Second World War and the Korean conflict brought aid to school districts called upon to educate the influx of children whose parents were attached to military bases and other federal facilities (Impact Aid). In the late 1950's federal assistance grew significantly through the National Defense Education Act (NDEA), which in the wake of Sputnik, was aimed at upgrading programs in science, mathematics, foreign languages, and other critical areas. Then in 1965, as an aspect of the war on poverty, Congress passed the Elementary and Secondary Education Act (ESEA), with ambitious and challenging goals: heightening equality of educational opportunity by providing funds for educating children from low-income families, and improving the quality of all public education by supporting experimentation and innovation. A later amendment to this act was the Bilingual Education Act which recognized the special education needs of children with limited English-speaking ability. In 1970, Congress enacted the Emergency School Assistance Act (ESAA) designed in part to help school districts meet the problems associated with desegregation.

In 1974, although no major program was passed, the idea of support for equalization of state finance programs was enacted in P.L. 93-380 which revised the system for allocation of federal funds for some elementary and secondary education programs.

Most recently, the Education for All Handicapped Children Act of 1975 provides for additional federal aid to states which can assure

that "free appropriate public education" will be available to all handicapped children by September 1978. "Appropriate" education is interpreted to include both special education and related services such as psychological and physical therapy, etc.

While the history of federal aid has been characterized by categorical programs, some educational interest groups have long pressed for a more generalized and substantial role for federal financial aid. Since the 1920's proponents of general aid emphasized two central points in their campaigns for increased federal aid to education: first, federal funds should leave resource allocation decisions to state and local education agencies; and, second, there should be no aid to parochial schools.

The issue of general aid was deferred by the passage of the Elementary and Secondary Education Act (ESEA) in 1965, a categorical program, which doubled the absolute volume of federal aid. In the early 1970's however, a new rationale for general aid emerged--the linking of substantial federal funding with the restructuring of state finance mechanisms. This was largely the result of three factors: (1) the increasing cost of education and the resulting strain on state and local budgets; (2) the Serrano decision and the drive to equalize resouces among school districts; and (3) the Administration's interest in a proposal for massive federal aid to education in the form of real estate tax relief.

In 1972, the Department of Health, Education, and Welfare School Finance Task Force began working with the White House to prepare such a tax relief bill. However, a combination of factors deterred progress on the issue. For one thing, staff working on proposals found the technical complexities more serious than they had anticipated and the likely costs higher than seemed feasible. Second, a 1973 report of the Advisory Commission on Intergovernmental Relations, Financing School and Property Tax Relief--A State Responsibility, concluded that property tax reform and school finance were state, not federal, matters. Probably most important, the Supreme Court Rodriquez decision removed the

stimulus for prompt action. But as we shall discuss below, while the pressure for quick action has eased at the federal level, the question of a larger federal role in school finance is and will continue to be under consideration.

Distribution of Federal Aid

In recent years, the growth in federal aid to education has been both significant and erratic. From 1961-1974, aid has grown more than five-fold, from just under $760 million to over $4.2 billion for elementary and secondary education. Between 1957 and 1964 federal education funds had almost doubled. They more than doubled again in one year (1965-66) as a result of the passage of ESEA. During the last six years, however, this growth has slowed. As a result, federal aid as a percentage of total educational revenues rose consistently during the 1960's to a high of 8.8 percent in 1967-8, but has since slipped to 7.8 percent in 1975-76.

While national totals provide some benchmarks for understanding the importance of federal aid to education, the more important questions require an analysis which distinguishes the amounts received by particular types of jurisdictions, and the different patterns of aid distribution that characterize individual federal aid programs. This section provides that analysis, and is intended to supply information to answer four categories of questions:

1. Are there consistent patterns in the distribution of federal aid to states? Do some states receive higher proportions of their elementary and secondary school revenues from federal aid programs?

2. What is the relationship between federal aid allocations and state and district poverty and income?

3. Does federal aid tend to recognize the problems of large central cities and impoverished rural areas?

4. Does federal aid equalize according to property valuation per pupil--the traditional school finance measure of the capacity of school districts to raise educational revenue?

Each of these questions is deceptively simple to state, but enormously difficult to answer because data is hard to obtain and consistent patterns are not readily apparent.

Patterns of Distribution Among the States

States differ considerably in the total amounts of per pupil federal aid they receive and in the proportion that such aid constitutes of their total per pupil educational spending. In dollar amounts, the range runs from under $60 per pupil in the seven states receiving the least aid per pupil to over $115 in the five states receiving the highest totals. The differences in the proportion of federal aid is even more marked since some of the lowest expenditure states receive the highest amounts of aid and the highest spending states receive some of the lowest allocations. At the top of the rankings, five states receive better than fifteen percent of their educational revenues in federal aid, whereas at the bottom of the scale five states receive less than 4.5 percent. (See Table VII)

Poverty, Income, and Federal Aid

Education in districts with high proportions of children from impoverished families is generally considered to require more intensive and thus more costly educational services than in more typical school districts. Similarly, communities with lower than average median family income are thought to require higher than average educational expenditures. Both state, and more notably, federal education laws embody aspects of this concept of compensatory educaton. What is the effect of such policy on federal aid allocations? We begin with one of the more widely accepted proxies for need, the percent of families with an income below the poverty level. In general we find that the higher the proportion of poverty in a state, the more federal aid it receives.

When one examines the same question within states--that is by correlating the flow of federal aid with poverty among the school districts of each state--total federal aid flows in patterns positively

TABLE VII

FEDERAL REVENUES PER PUPIL 1973-74 AND PERCENTAGE OF POVERTY FAMILIES 1969-70

	% Federal Revenue Of Total Revenue[1]	Federal Revenue Per Pupil[2]	% Of Poverty Families
Mississippi	24.5	$ 222	28.9
Alaska	16.8	360**	9.3
Arkansas	16.3	142	22.8
New Mexico	16.0	166	18.5
South Carolina	15.8	157	19.0
South Dakota	14.9	159	14.8
Alabama	14.4	118	20.7
Louisiana	14.0	146	21.5
Kentucky	13.8	123	19.2
Tennessee	13.1	118	18.2
West Virginia	12.5	115	18.0
Georgia	12.0	114	16.7
Idaho	11.1	107	10.9
Wyoming	11.1	126	9.3
Texas	11.0	117	14.6
North Carolina	10.5	119	16.3
Virginia	10.4	124	12.3
Maine	9.3*	92*	10.3
Oklahoma	9.3	89	15.0
North Dakota	9.1	105	12.4
Florida	8.7	98	12.7
Washington	8.7*	119*	7.6
Montana	8.5*	93*	10.4
Hawaii	8.2	119**	7.6
Utah	8.2	84	9.1

Rhode Island	8.1	107	8.5
Kansas	8.0	100	9.7
Nebraska	7.9	83	10.1
Missouri	7.6	91	11.5
UNITED STATES	7.5	$ 101	10.7
Arizona	7.4	91	11.5
Colorado	7.3	97	9.1
Ohio	7.3	83	7.6
Pennsylvania	6.8	103	7.9
California	6.7	108	8.4
Delaware	6.6	113	8.2
Maryland	6.2	110	7.7
Nevada	6.1	74	7.0
Vermont	6.1	86	9.1
Illinois	5.9	96	7.7
New Jersey	5.7	93	6.1
Massachusetts	5.2	68	6.2
Indiana	5.1	59	7.4
Iowa	4.9	58	8.9
New York	4.9	104	8.5
Minnesota	4.7	70	8.2
Oregon	4.1	56	8.6
Michigan	4.0*	52*	7.3
Wisconsin	4.3	45	7.4
Connecticut	3.1	48	5.3
New Hampshire	3.0	32	6.7

[1]Table G-10 "Estimated Percent of Revenue of Public Elementary and Secondary Schools from the Federal Government, 1973-74," Ranking of the States, 1974, NEA, p. 51.

[2]Derived from Table G-2 "Public-School Revenue Receipts Per Pupil in Average Daily Attendance 1973-1974," Ranking of the States, 1974, NEA, p. 48.

*NEA Research estimate.

**Reduce 30% for Alaska and 19% for Hawaii to make purchasing power comparable to figures for other areas of the United States.

related to increasing proportions of poverty pupils. Title I, as one would expect, is even more highly correlated with poverty than all federal programs taken together. This strong relationship controls the overall pattern of federal aid since Title I is the largest of federal programs nationally and in most states.[1]

Federal Aid, the Central Cities, and Rural Areas

The redistribution of population and economic activities within metropolitan regions has brought about numerous educational and fiscal problems in large city school districts. The consequences of this sorting out process has often been a deterioration of the city's tax base, higher urban education costs, problems of municipal overburden, and inadequate state responses to the problems of many central cities. Federal aid, and Title I of ESEA in particular, has been responsive to these problems, largely because the majority of central cities are characterized by increasingly large populations of children who live in poverty. Rural poverty is also widespread, and, not unexpectedly, federal aid and Title I reflect this characteristic by providing higher than average allocations to such areas.

In heavily urban states such as New York, Ohio, Massachusetts, and Michigan, federal aid has the strongest tendency to focus primarily on central cities. In states with a more mixed degree of urbanism, (Colorado, California, Kansas, Texas, Virginia) the central cities, suburban and rural areas tend to be more balanced in aid distributions. Finally, in rural states such as Mississippi, North Carolina, and Washington, the balance shifts toward rural areas.

Among central cities there is marked differentiation in aid recipients. Albany, New York received $189 per pupil compared with Jackson, Mississippi's $40. Even within states, the differentials

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[1]These conclusions are taken from a study of 12 states. See Joel S. Berke, Jay H. Moskowitz and Judy G. Sinkin, "Federal Aid and State School Finance: Present Patterns and Future Alternatives". in J. J. Callahan and W. H. Wilken (Eds.) School Finance Reform: A Legislator's Handbook (Washington D.C.: National Conference of State Legislators, (1976) pp. 95-98.

are substantial. San Francisco receives twice as much total federal aid per pupil as Los Angeles ($102 to $51). While interstate variations are conditioned by the Title I formula which is directly related to the average per pupil expenditure level of the state, intrastate variations are more difficult to explain. However, analysis strongly suggests that the relative position of the central city to its state affects the level of aid received. For example, Jackson is considerably wealthier than the Mississippi state average, while Albany is slightly poorer in income than the New York state average.[1]

While the allocation of Title I funds is under relatively rigid control, a number of other major federal programs leave considerable leeway to states in determining allocation formulas. By and large, most states direct non-Title I monies to the same areas in which Title I funds are concentrated, though in a smaller proportion. Political pressures occasionally do arise, however, which cause discretionary federal aid funds to be more evenly distributed throughout the state.

Federal Aid and Property Valuation

Most state aid formulas are designed--although imperfectly--to equalize property value differentials among school districts. Does federal aid also fill this traditional equalization role? The distribution of federal aid when viewed in terms of property wealth does not overcome the existing wealth-based disparities within states. This is not surprising since federal aid programs, with the exception of PL 874, have not been consciously designed to equalize property-based differentials.[2]

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[1] Ibid. pp. 98-99.

[2] Ibid. pp. 99-100.

Conclusion

Federal aid, while not a significant part of overall educational finances, exerts a considerable influence on state-local funding policies, particularly in the area of aid to the educationally and economically disadvantaged.

Federal education aid, mainly because of the Title I ESEA program, flows mainly to poor states and communities, particularly hard-pressed central cities and poor rural areas. Where states can exercise discretion in allocating federal aid, aid distributions tend to follow the general pattern of distribution contained in the basic aid formula of the state. When the state has an equalizing formula this can enhance the overall equity of a state's school finance system.

Although both state and federal educational aid can be equalizing in nature, they have somewhat different distributional patterns. State aid is largely based on variations in property wealth per pupil. Federal aid, on the other hand compensates largely for variations in family income and incidence of poverty. Closer coordination of federal and state aid distribution policy may then require more consideration of better wealth measures to assess the relative wealth or poverty of an individual school district if fiscal equalization policies are to be consistent with one another.

Federal interest in promoting and sustaining state school finance reform has temporarily peaked with the advent of the Rodriquez decision. Yet, the movement to provide intrastate school finance equalization will continue to stimulate national debate for many years to come. It will do so for several reasons. First, there are still major inequities in equal educational opportunities on an intrastate basis. Secondly, equalizing federal general educational aid can help both poor and rich states sustain the funding of finance reform laws after they have been passed. Finally, general aid support would move the federal government away from the stance of providing, with the exception of Title I, marginal educational funding for programs that later become a major state-local fiscal burden and which sometimes can strain the ability of a state to adequately fund its own equalizing general aid formula.

APPENDIX

CALCULATIONS FOR EQUALIZATION PROGRAMS

FORMULA	DISTRICT A	DISTRICT B
	(Valuation = $25,000/pupil) (Expenditures = $1,000/pupil)	(Valuation = $75,000/pupil) (Expenditures = $1,000/pupil)
Minimum Foundation $A_i = G - B_i t_s$	$A = \$1,000 - .01(\$25,000)$ $= \$1,000 - \$250$ $= \$750$	$A = \$1,000 - .01\ (\$75,000)$ $= \$100 - \$750$ $= \$250$
Percentage Equalizing $A_i = [1 - k\ (\frac{B_i}{B_a})]E_i$	$A_i = [1 - .5\ (\frac{\$25,000}{\$50,000})]\$1,000$ $= [1 - (.5)\ (.5)]\$1,000$ $= (1 - .25)\ \$1,000$ $= \$750$	$A_i = [1 - .5\ (\frac{\$75,000}{\$50,000})]\$1,000$ $A_i = [1 - (.5)\ (.5)]\$1,000$ $= (1 - .75)\ \$1,000$ $= \$250$
Guaranteed Tax Base $A_i = B_g t_i - B_g t_i$	$A_i = (\$100,000 \times .01) -$ $= \$1,000 - \$250$ $= \$750$	$A_i = (\$100,000 \times .01) - (\$75,000 \times .01)$ $= \$1,000 - \$750$ $= \$250$
District Power Equalizing $A_i = G_i - B_i t_i$	$A_i = \$1,000 - .01\ (\$25,000)$ $= \$1,000 - \$250$ $= \$750$	$A_i = \$1,000 - .01\ (\$75,000)$ $= \$1,000 - \$750$ $= \$250$

A_i is the equalization aid allocated to the district per pupil.

B_g is the state-guaranteed tax base per pupil.

B_i is the equalized valuation per pupil in the district.

E_i is the district expenditure per pupil covered by the equalization program.

t_i is the computed equalization tax rate for the district; $t_i = E_i/B_g$

t_s is the state-mandated tax rate for participation in the program.

G_i is guaranteed expenditure level for every tax effort, t_i, level.

GLOSSARY

Assessed Valuation: The value of a taxable property as determined by a government agency or tax assessor. Taxes are paid on the basis of a property's assessed valuation. The assessed valuation of property in most states and localities is usually less than the market value of the property. The assessment ratio is the ratio of actual assessed valuation to market valuation.

Categorical Aid: State or federal aid that is designated for a specific use. Examples are transportation aid, special education aid, aid for vocational education, and aid for capital construction.

ESEA: Elementary and Secondary Education Act of 1965 and its amendments. Title I of this federal aid program is directed at improving the educational opportunities of children from disadvantaged homes through compensatory education.

Equalization: The process of compensating for differences in order to make equal. Capacity equalization is the process of compensating for differences in school districts' ability to support education in order to achieve student equity and taxpayer equity. Service and programmatic equalization is the process of compensating for differences in the level of services or programs in a school or school district in order to achieve student equity.

Expenditures (educational): Money spent by a school district to build, operate and maintain schools. Current Expenditures are those for the daily operation of the school program (including administration, instruction, attendance and health services, transportation,

operation and maintenance of plant and fixed charges). Total Expenditures are the sum of current expenditures and debt and capital outlay expenditures.

Fiscal Capacity: The total economic resources available to a government for tax purposes. In school finance, fiscal capacity is generally defined as property valuation per pupil, but several states, such as Rhode Island, Kansas, and Virginia, include income in combination with property valuation as a measure of fiscal capacity.

Foundation or Guarantee Level: That level of per pupil expenditures guaranteed to all school districts in a state through a combination of state aid and locally raised revenues.

Fourteenth Amendment: The Fourteenth Amendment of the United States Constitution guarantees all citizens due process of law and the equal protection of the laws.

General Aid: State or federal aid which can be used by a school district for any purpose.

Inverse Proportion: A relationship between two variables such that as one variable increases the other variable decreases.

Impact Aid: A program that provides assistance to school districts that serve significant numbers of children whose parents either work for the federal government or reside on property owned by the federal government. Impacted areas aid is the second largest of the federal programs that support elementary and secondary education.

Local Leeway: In state aid programs, the right of a participating district to tax itself at a rate above the mandated local tax effort.

Municipal Overburden: A term often used to describe those school districts which, because of an unusually high level of non-educational service need, are unable to support as high a level of educational spending as their wealth might imply.

Progressive Tax: A tax under which a high income taxpayer pays a larger percent of his income in taxes than a low income taxpayer.

Property Composition: The different classifications of property which make up the tax base of a taxing jurisdiction. The property tax base of a community is generally composed of residential, commercial, industrial, farm, and open space properties.

Proportional tax: A tax which consumes the same percent of family or individual income at all income levels.

Pupil: Every student enrolled in or attending a public elementary and secondary school. Pupil membership is the number of students enrolled in a school. Pupil attendance is defined by the actual presence of enrolled students. Pupil weightings count students with special educational needs as more than one unit. For example, a weighting system that counts an elementary student as 1.0 units could count an elementary student with special problems as 1.4.

Recapture: A feature in state aid to education formulas where local districts which raise an amount per pupil in excess of the state

guaranteed expenditure per pupil would have to pay back the excess to the state for redistribution to poorer schools (i.e., those with less valuation per pupil).

Regressive Tax: A tax under which a low income taxpayer pays a larger percent of his income in taxes than a high income taxpayer.

Revenues (educational): All money available to a school district. Revenues include state aid, federal aid, locally raised taxes, tuition payments, and so forth.

Rodriguez vs. San Antonio: A decision by the United States Supreme Court in 1973 which ended the use of the Fourteenth Amendment to overturn school finance laws.

School District Tax Rate: The term used to indicate the property tax rate levied by the local school district. A millage rate is the amount of property tax dollars to be paid for each $1000 of assessed valuation.

Serrano vs. Priest: A California court decision which established "fiscal neutrality" as a constitutional principle. Fiscal neutrality requires that local district wealth not be the determinant of how much money is available for educational expenditures.

Shared-cost Formula: A state aid formula under which the total cost of education is shared between the state and local governments.

Student Equity: The goal of distributing educational revenues in a way that insures equality of educational opportunity.

Tax Burden or Tax Incidence: Typically defined as the percent of an individual's or family's income that is spent on taxes.

Tax Effort: The extent to which a taxing jurisdiction is using its fiscal capacity to raise revenues for public purposes. Measures of tax effort involve a ratio of tax revenues or expenditures to some measure of fiscal capacity.

Taxpayer Equity: The goal of raising educational revenues in an adequate and equitable manner.

Unit of Analysis: The subject of analysis. For example, equality of expenditures can be achieved at the school district level or the school level. Taxpayer equity can be achieved at the district level or the level of the individual taypayer.

BIBLIOGRAPHY

I. General Works

Alexander, Kern and K. Forbis Jordan. Educational Need in the Public Economy. Gainesville: The University Press of Florida, 1976.

Averch, H.A., S.J. Carroll, T.S. Donaldson, H.J. Kiesling and J. Pincus. Summary of Findings: How Effective Is Schooling? Washington, D.C.: President's Commission on School Finance, 1971.

Benson, C.S. The Cheerful Prospect: A Statement on the Future of Public Education. Boston: Houghton Mifflin, 1965.

The Economics of Public Education. Boston: Houghton Mifflin, 1961.

Benson, Charles, Paul Goldfinger, E. Gareth Hoachlander and Jessica Pers. Planning for Educational Reform: Financial and Social Alternatives. Dodd, Mead & Co., 1974.

Berke, J.S. Answers to Inequity: An Analysis of the New School Finance. Berkeley, Ca.: McCutchan Publishing Corp., 1974.

Berke, J.S., D.E. Shalala and M.F. Williams. "Two roads to school finance reform," Transaction: Social Science and Modern Society 13, no. 2 (January/February 1976): 67-72.

Callahan, J.J. and W.H. Wilken (Eds.) School Finance Reform: A Legislator's Handbook. Washington, D.C.: National Conference of State Legislators, February 1976.

Callahan, J.J., W.H. Wilken and T.M. Sillerman. Urban Schools and School Finance Reform: Promise and Reality. Washington, D.C.: The National Urban Coalition, July 1973.

Campbell, A.K. and S. Sacks. Metropolitan America: Fiscal Patterns and Governmental Systems. New York: Free Press, 1967.

Cohn, E. Economics of State Aid to Education. Lexington, Mass.: D.C. Heath and Company, 1974.

Coleman, J.S. et al. Equality of Educational Opportunity. Washington, D.C.: U.S. Government Printing Office, 1966.

Coons, J.E., W.H. Clune III and S.D. Sugarman. Private Wealth and Public Education. Cambridge, Mass.: Harvard University, Belknap Press, 1970.

Duke University, School of Law. "Future directions for school finance reform," Law and Contemporary Problems 37 no. 3 (Winter-Spring 1974).

Horowitz, Harold. "Unseparate but unequal - the emerging fourteenth amendment issue in public school education," U.C.L.A. Law Review 13 (1966): 1147.

James, H.T., T.J. Alan and H.J. Dyck. Wealth, Expenditure and Decision-making for Education. Stanford: School of Education, Stanford University, 1963.

James, H.T., J.A. Kelly and W.I. Garms. Determinants of Educational Expenditures in Large Cities of the United States. Ca.: Stanford University, School of Education, 1966.

Johns, R.L. and E.L. Morphet (Eds.). Problems and Issues in Public School Finance. New York: Columbia Teachers College, 1952.

Kurland, Philip B. "Equal Educational Opportunity: The Limits of Constitutional Jurisprudence Undefined," Univeristy of Chicago Law Review 35 (Summer 1968).

Mort, P.R., W.C. Reusser and J.W. Polley. Public School Finance, 3rd Ed. New York: McGraw-Hill, 1960.

Piele, P. and J. Hall. Budgets, Bonds, and Ballots. Toronto: D.C. Heath and Company, 1973.

President's Commission on School Finance. Schools, People & Money: The Need for Educational Reform. Final Report. Washington, D.C.: U.S. Government Printing Office, 1972.

Reischauer, R.D. and R.W. Hartman. Reforming School Finance. Washington, D.C.: The Brookings Institution, 1973.

Sacks, Seymour. City Schools/Suburban Schools: A History of Fiscal Conflict. Syracuse: Syracuse University Press, 1972.

Wise, Arthur E. Rich Schools, Poor Schools: The Promise of Equal Educational Opportunity. Chicago: University of Chicago Press, 1968.

II. School Finance Formulas

Berke, J.S., A.K. Campbell and R.J. Goettel. Financing Equal Educational Opportunity: Alternatives for State Finance. Berkeley, Ca.: McCutchan Publishing Corp., 1972.

Commission to Study School Finance and Equal Educational Opportunity (Final Report). Financing Connecticut's Schools. The Commission, January 1975.

Coons, John E., William H. Clune III and Stephen D. Sugarman. Private Wealth and Public Education. Cambridge: The Belknap Press of Harvard University Press, 1970.

Cubberly, E.P. School Funds and Their Apportionment. New York: Columbia Teachers College, 1905.

Governor's Citizens' Committee on Education. Improving Education in Florida. Tallahassee: The Committee, March 15, 1973.

Grubb, W. Norton and Stephan Michelson. States and Schools. Lexington, Mass.: D.C. Heath and Company, 1974.

Hickrod, G.A., T.B. Hubbard and W.C. Young. 1973 Reform of the Illinois General Purpose Grant-In-Aid: A Description and an Evaluation. Normal: University of Illinois, Department of Administration (Mimeographed).

Johns, Roe L. and others (Eds.). Alternative Programs for Financing Education 5. Gainesville, Florida: National Educational Finance Project, 1971.

Mort, P.R. State Support for Public Schools. New York: Columbia Teachers College, 1926.

III. State & Local Revenues

Aaron, H.J. Who Pays the Property Tax? A New View. Washington, D.C.: The Brookings Institution, 1975.

Advisory Commission on Intergovernmental Relations. Financing Schools and Property Tax Relief - A State Responsibility. Washington, D.C.: U.S. Government Printing Office, 1973.

Advisory Commission on Intergovernmental Relations. Fiscal Balance in the American Federal System 1. Washington, D.C.: U.S. Government Printing Office, 1967.

_____ Who Should Pay for Public Schools? Washington, D.C.: U.S. Government Printing Office, 1971.

Break, G. Intergovernmental Fiscal Relations in the United States. Washington, D.C.: The Brookings Institution, 1967.

Burkhead, Jesse. Public School Finance. Syracuse: Syracuse University Press, 1964.

_____ State and Local Taxes for Public Education. Syracuse: Syracuse University Press, 1963.

Joint Economic Committee. Impact of the Property Tax: Its Economic Implications for Urban Problems. Congress of the United States, 90th Congress, 2nd Session, 1968.

Levin, Betsy and others. Paying for Public Schools: Issues of School Finance in California. Washington: The Urban Institute, 1972.

Mieszkowski, P. "On the theory of tax incidence," Journal of Political Economy 75 (June 1967): 250-62.

_____ "Tax incidence theory: The effects of taxes on the distribution of income," Journal of Economic Literature 7 (December 1969): 1103-24.

Musgrave, R.A. The Theory of Public Finance. New York: McGraw-Hill, 1959.

Netzer, Dick. The Economics of the Property Tax. Washington, D.C.: The Brookings Institution, 1966.

Oldman, Oliver and Ferdinand P. Schoettle. State and Local Taxes and Finance, Text Problems and Cases. Mineola, N.Y.: The Foundation Press, Inc., 1974.

IV. Federal Aid

Berke, J.S. and M.W. Kirst. Federal Aid to Education: Who Benefits? Who Governs? Lexington, Mass.: D.C. Heath and Company, 1972.

Berke, J.S., J.H. Moskowitz and J.G. Sinkin. "Federal aid and state school finance: Present patterns and future alternatives." In School Finance Reform: A Legislator's Handbook. J.J. Callahan and W.H. Wilken (Eds.). Washington, D.C.: National Conference of State Legislatures, 1976.

Guthrie, J.W. "The flow of federal funds in education." In Power and Process: The Formulation and Limits of Federal Educational Policy. H.L. Summerfield (Ed.). Berkeley, Ca.: McCutchan Publishing Co., 1974.

Jennings, J.F. "Federal general aid--likely or illusory?" Journal of Law & Education 2, no. 1 (1973): 89-126.

Murphy, J.T. State Education Agencies and Discretionary Funds. Lexington, Mass.: D.C. Heath and Company, 1974.

Schultze, Charles L. and others. Setting National Priorities: The 1973 Budget. Washington, D.C.: The Brookings Institution, 1972.

Timpane, M. "Federal aid to schools: Its limited future," Law and Contemporary Problems 37, n. 3 (Winter-Spring 1974): 493-512.

U.S. Congress, House. Federal Educational Policies Programs and Programs and Proposals: A Survey and Handbook. House Document 398, 3 vols. Washington, D.C.: U.S. Government Printing Office, 1968.